

WAVELET ANALYSIS OF ONE OR MORE TIME DOMAIN REFLECTOMETRY  
(TDR) SIGNALS TO DETERMINE ONE OR MORE CHARACTERISTICS OF  
ONE OR MORE ANOMALIES IN A WIRE

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ABSTRACT OF THE DISCLOSURE

In one embodiment, a method for wavelet analysis of one or more time domain reflectometry (TDR) signals to determine one or more characteristics of one or more anomalies in a wire includes receiving a TDR signal that has reflected back 10 up a wire from an anomaly in the wire, calculating a wavelet analysis result from a wavelet analysis of the TDR signal, accessing a library of one or more reference wavelet analysis results that each correspond to one or more known anomalies having one or more known characteristics, and comparing the wavelet analysis result with one or more reference wavelet analysis results. If the wavelet analysis result 15 corresponds to one or more particular reference wavelet analysis results, it is indicated that the anomaly in the wire has one or more particular known characteristics of one or more particular known anomalies corresponding to the one or more particular reference wavelet analysis results. If the wavelet analysis result of the TDR signal does not correspond to one or more reference wavelet analysis results, it is indicated 20 that the anomaly in the wire lacks one or more known characteristics of one or more known anomalies corresponding to one or more reference wavelet analysis results in the library.